What is claimed is:

1. An evaporative condensing apparatus comprising

an evaporative condenser tubing having an outside and extending from an upper portion to a lower portion,

an absorptive material substantially covering and in thermal transfer contact with the outside of the tubing,

a compressor configured to circulate refrigerant gas through the tubing,

a water system adapted to deposit a controlled amount of water on the absorptive material to wet the material to absorb heat from the tubing by evaporation of water from the absorptive material,

a collector below the lower portion of the tubing to receive excess water from the tubing and direct excess water to a drain, and

an air delivery system to direct air over the absorptive material on the coil,

wherein the water system supplies water to the upper portion of the tubing in sufficient quantity that the water wets the absorptive material, keeps the absorptive material wet from the upper portion to the lower portion, even with the evaporative losses of water, and excess water remains to carry dissolved solids to the collector.

2. An apparatus as claimed in claim 1 wherein the water system supplies only enough water to provide excess water to carry enough dissolved solids to the collector so that scale from precipitated solids in the water does not build up on the tubing or absorptive material in sufficient quantity to degrade thermal transfer performance in a commercially significant amount.

3. An apparatus as claimed in claim 2 wherein the water system includes an adjustment that permits the rate of water flow to be adjusted to achieve a level of water flow to provide excess water to carry enough dissolved solids to the collector so that scale from precipitated solids in the water does not build up on the tubing or absorptive material in sufficient quantity to degrade thermal transfer performance in a commercially significant amount, in correspondence with an expected dissolved solids concentration in the water.

4. An apparatus as claimed in claim 1 wherein the air delivery system includes a fan and is configured so that the airflow occurs over the absorptive material only when the fan

motor is turned on and does not occur or occurs minimally when the fan motor is off, even when a strong wind is blowing.

5. An apparatus as claimed in claim 1 wherein the tubing is arrayed around a central volume and surrounded by an air-impervious barrier that is open above and below the tubing and the air delivery system includes a fan configured to direct air radially inward from below the barrier so the air must turn to pass axially over the absorptive material when the fan is on.

6. An apparatus as claimed in claim 5 wherein the collector is configured as a pan and inhibits axial airflow upstream of a radial inward airflow path.

7. An apparatus as claimed in claim 1 wherein the absorptive material is treated with an antimicrobial compound.

8. An apparatus as claimed in claim 1 wherein the absorptive material is a textile material.

9. An apparatus as claimed in claim 1 wherein the absorptive material is a cotton fabric.

10. An apparatus as claimed in claim 1 further comprising an ultraviolet light source positioned to direct ultraviolet light on the absorptive material to inhibit the growth of microorganisms.

11. An apparatus as claimed in claim 1 wherein the tubing is a metallic material that releases ions that inhibit the growth of microorganisms.

12. An apparatus as claimed in claim 1 further comprising a compressor proximate the tubing with an upper portion of the compressor subject to heating during operation, absorptive material being on the upper portion and the water system being adapted to deposit a controlled amount of water on the absorptive material on the upper portion of the compressor to wet the material to absorb heat from the upper portion by evaporation of water from the absorptive material on the upper portion of the compressor.

13. An apparatus as claimed in claim 1 wherein the tubing is arrayed in a helical coil having a vertical axis so turns of the coil are vertically aligned, permitting excess water from an upper turn to follow the helical path of the coil when passing downward or to drip from the upper turn to a lower turn.

14. An apparatus as claimed in claim 1 wherein the water system includes two flow paths of a higher and lower flow rate, and the water system uses the high flow rate path when cooling is needed, and the lower flow rate path at most other times.

15. An apparatus as claimed in claim 14 wherein the water system includes a controller to select between the two flow paths.

16. An apparatus as claimed in claim 1 wherein the water system includes a flow path adjustable between a higher and a lower flow rate, and the water system uses the high flow rate path when cooling is needed, and the lower flow rate path at most other times.

17. An apparatus as claimed in claim 16 wherein the water system includes a controller to select between the two flow rates.

18. An evaporative condensing apparatus comprising

an evaporative condenser tubing having an outside and extending in a helical coil having a vertical axis so turns of the coil are vertically aligned arrayed around a central volume and surrounded by an air-impervious barrier that is open above and below the tubing,

an absorptive material substantially covering and in thermal transfer contact with the outside of the tubing and treated with an antimicrobial compound,

a compressor configured to circulate refrigerant gas through the tubing,

a water system adapted to deposit a controlled amount of water on the absorptive material to wet the material to absorb heat from the tubing by evaporation of water from the absorptive material,

a collector below the lower portion of the tubing to receive excess water from the tubing and direct excess water to a drain, the collector being configured as a pan and inhibiting axial airflow upstream of a radial inward airflow path, and

an air delivery system to direct air over the absorptive material on the coil including a fan configured to direct air radially inward from below the barrier so the air must turn to pass

axially over the absorptive material when the fan is on and airflow does not occur or occurs minimally when the fan motor is off, even when a strong wind is blowing,

a compressor proximate the tubing with an upper portion of the compressor subject to heating during operation, absorptive material being on the upper portion and the water system being adapted to deposit a controlled amount of water on the absorptive material on the upper portion of the compressor to wet the material to absorb heat from the upper portion by evaporation of water from the absorptive material on the upper portion of the compressor,

wherein the water system continually supplies water to the upper portion of the tubing in sufficient quantity that the water wets the absorptive material, water from an upper turn of the helical coil can follow the helical path of the coil when passing downward or drip from the upper turn to a lower turn and keep the absorptive material wet from the upper portion to the lower portion, even with the evaporative losses of water, and excess water remains to carry dissolved solids to the collector and the water system includes an adjustment that permits the rate of water flow to be adjusted to achieve a level of water flow to provide excess water to carry enough dissolved solids to the collector so that scale from precipitated solids in the water does not build up on the tubing or absorptive material in sufficient quantity to degrade thermal transfer performance in a commercially significant amount in correspondence with an expected dissolved solids concentration in the water.

19. A heat rejection apparatus comprising

a solid object conducting heat to be rejected, having an outside and extending from an upper portion to a lower portion,

an absorptive material substantially covering and in thermal transfer contact with the outside of the object,

a water system adapted to deposit a controlled amount of water on the absorptive material to wet the material to absorb heat from the object by evaporation of water from the absorptive material,

a collector below the lower portion of the object to receive excess water from the object and absorptive material and direct excess water to a drain, and

an air delivery system to direct air over the absorptive material on the object,

wherein the water system supplies water to the upper portion of the object in sufficient quantity that the water wets the absorptive material, keeps the absorptive material wet from the upper portion to the lower portion, even with the evaporative losses of water, and excess water remains to carry dissolved solids to the collector.

20. A method of evaporative condensing comprising

passing a refrigerant gas through tubing traversing a path having rungs substantially vertically arrayed and in thermal transfer contact with an absorptive material outside of the tubing,

depositing a controlled amount of water on the absorptive material to wet the material to absorb heat from the tubing by evaporation of water from the absorptive material,

collecting excess water below the tubing, and

directing air over the absorptive material on the coil to evaporate water from the absorptive material,

wherein depositing includes supplying water to the upper portion of the tubing in sufficient quantity that the water wets the absorptive material, keeps the absorptive material wet from the upper portion to the lower portion, even with the evaporative losses of water, and excess water remains to carry dissolved solids to the collector.

21. A method as claimed in claim 20 further comprising

compressing refrigerant gas and thereby generating heat to be rejected in a compressor having absorptive material in thermal contact therewith, and

depositing a controlled amount of water on the absorptive material on the compressor to wet the material to absorb heat from the compressor by evaporation of water from the absorptive material and in sufficient quantity that the water wets the absorptive material, keeps the absorptive material wet, and excess water carries dissolved solids away.

22. A method of heat rejection comprising

providing a solid object conducting heat to be rejected and having rungs substantially vertically arrayed and in thermal transfer contact with an absorptive material outside of the solid object,

depositing a controlled amount of water on the absorptive material to wet the material to absorb heat from the object by evaporation of water from the absorptive material,

collecting excess water below the object, and

directing air over the absorptive material on the object to evaporate water from the absorptive material,

wherein depositing includes supplying water to the upper portion of the object in sufficient quantity that the water wets the absorptive material, keeps the absorptive material

wet from the upper portion to the lower portion, even with the evaporative losses of water, and excess water remains to carry dissolved solids away.

23. A method as claimed in claim 22 wherein depositing includes depositing only enough water to provide excess water to carry enough dissolved solids away so that scale from precipitated solids in the water does not build up on the object or absorptive material in sufficient quantity to degrade thermal transfer performance in a commercially significant amount.

24. A method as claimed in claim 22 wherein depositing includes depositing only enough water to provide excess water to carry enough dissolved solids away so that scale from precipitated solids in the water does not build up on the object or absorptive material in sufficient quantity to degrade thermal transfer performance in a commercially significant amount, in correspondence with an expected dissolved solids concentration in the water.

25. A method as claimed in claim 22 further comprising positioning the object so air passes over it substantially only when the airflow is desired and wind does not substantially cause airflow over the object.

26. A method as claimed in claim 22 further comprising inhibiting the growth of microorganisms on the absorptive material.

27. A method as claimed in claim 22 further comprising inhibiting the growth of microorganisms on the absorptive material by a release of ions from the object ions to inhibit the growth of microorganisms.

28. A method as claimed in claim 22 wherein the object is arrayed in a helical coil having a vertical axis so turns of the coil are vertically aligned, and depositing includes depositing the water so excess water from an upper turn follows the helical path of the coil when passing downward or drips from the upper turn to a lower turn.